



PORT HEALTH DISTRICT.

ANNUAL REPORT FOR 1938.

NOT TO BE TAKEN AWAY



1.

TABLE A.

Amount of Shipping entering the Port Health District during the year.

			Number inspected		Number	Number of		
			By the	By the	reported	vessels on		
			Medical	Sanitary	to be	which de-		
			Officer.	Inspector.	defective	fects were		
						remedied		
Foreign	(Steamers	No. 307 )		22	277	73	65	
	(Motors	104 )	338571	10	104	21	21	
	(Sailing	- )		-	-	-	-	
	(Fishing	- )		-	-	-	-	
<hr/>								
Totals		411	338571	32	381	94	86	
<hr/>								
Coast- wise.	(Steamers	490 )		18	479	105	97	
	(Motors	549 )	327566	4	500	54	53	
	(Sailing	75 )		2	72	16	16	
	(Fishing	- )		-	-	-	-	
<hr/>								
Total		1114	327566	24	1051	175	166	
<hr/>								
Total Foreign & Coastwise.			1525	666137	56	1432	269	252

2.

CHARACTER OF TRADE OF PORT.

TABLE B.

## (a) PASSENGER TRAFFIC DURING 1938:-

No. of Passengers.	1st Class.	2nd Class.	3rd Class.	Trans-migrant
Inwards .. ..	0	0	0	0
Outwards .. ..	0	0	0	0

The passenger traffic of the Port is confined entirely to day trips between this port and various British and Continental seaside resorts.

## (b) CARGO TRAFFIC.

Principal Imports. Wood pulp, coal, timber, china clay, stone, gypsum, crude oil, motor spirit, fertilizers, grain, cattle food, seeds and kernels for making cattle cake, beet sugar, maize starch, potatoes and flour.

Principal Exports. Cement, cattle cake, vegetable oil, paper, fruit boxes, plaster boards, scrap iron and bitumen.

## (c) COUNTRIES WITH WHICH THE PORT PRINCIPALLY TRADES:-

Import trade is carried on with Scandinavian, German, Dutch, Belgian, Estonian, Latvian and Baltic Ports and with Portugal,



Canada, West Indies and South America. Cement, paper and plaster board are sent to the larger British Ports for transshipment overseas.

The principal British Ports with which trade is carried on are London, Tyne, Tees, Blyth, Keadby, Goole, Seaham Harbour, Kings Lynn, Ipswich, the Scottish East Coast Coal and Stone Ports, the Welsh and Cornish Stone Ports and the Cornish China Clay Ports, Yarmouth, Poole and Southampton.

#### NUMBER AND NATIONALITY OF VESSELS.

British 1106, Dutch 197, Swede 62, Norwegian 55, Finn 46, Danish 31, Estonian 16, Belgian 6, German 3, Latvian 2, Greek 1.

### 3. SOURCE OF WATER SUPPLY.

#### 1. (a) For the Port.

There are two sources. The South Side of the river is supplied by the Chatham and District Water Company and the North Side by the Strood Water Works, the latter being the property of Rochester Corporation.

#### (b) For Shipping.

The supply is from the same source, with one exception. Small barges lying at the British Oil and Cake Mills ~~were~~ formerly supplied with water from the factory cisterns which were supplied by the artesian well on the firms premises.

The initial purpose of the cisterns was for supplying hosing down and boiler water. Samples of water taken during the early part of this year gave unsatisfactory results and a series of elimination tests showed the cause to lie with the cisterns as the actual well water was consistently good. The use of water from these cisterns for other purposes than washing down or filling boilers has been prohibited.

#### 2. HYDRANTS AND HOSEPIPES. WHAT PRECAUTIONS ARE TAKEN AGAINST CONTAMINATION.

The majority of filling points are standpipes and taps, but at the few points where hydrants are in use the system of concrete drainable pits and raised pipes, or porous pits render direct contamination unlikely. The necessity for washing the connections before coupling up the hoses has been pointed out to the people concerned. It is the usual practice to take in the supply of boiler water before filling the drinking tanks and this ensures that the hose is well flushed before filling the drinking water tanks.

#### 3. NUMBER OF WATER BOATS AND THEIR SANITARY CONDITION.

There is one water boat in use for supplying shipping. The water storage is in the form of several tanks which admits of defective tanks being replaced without interference in any way with the vessel's hull. The tanks are cleaned and cement washed at regular intervals and there have been no complaints as to the quality of water supplied. Drinking water is still supplied by this craft but the greater amount of water is supplied for ships' boilers.

### 4. PORT SANITARY REGULATIONS, 1933.

There has been no alteration of arrangements mentioned in the report of 1936 which are repeated below.

1. Vessels are boarded and pratique given at the mouth of the river which is situated within the area of the London Port Health Authority. Normally the Declaration of Health Certificate is given up at this point. When for any reason



a vessel arrives at Rochester without having given up the Certificate at Sheerness it is collected by the Rochester Customs Officers and sent by them to Dr. Madwar, the boarding Medical Officer at Sheerness. The Rochester Port Medical Officer is at once informed should the certificate indicate immediate action by the Port Health Authority being necessary.

The Rochester Customs and Shipping Agents are supplied with Declaration of Health Forms P.1 so that masters may replenish their stock when necessary. As the initial boarding takes place within the London area the majority of certificates in use are those issued by the London Authority.

2. Boarding of Vessels on arrival.

As stated above all incoming vessels from Foreign ports receive the first boarding for the purpose of pratique at Sheerness. In the Port of Rochester they are again boarded by the Customs Water Guard and by the Sanitary Inspector and where necessary as a result of information from (a) the boarding Medical Officer at Sheerness, (b) Customs at Rochester or Port Sanitary Inspector they are boarded by the Port Medical Officer.

3. Notification to the authority of Inward vessels requiring special attention.

There are no arrangements whereby wireless messages will be received other than general instructions to wireless "Porthealth" Rochester contained in the Declaration of Health Certificate, the useful result of which will, of course, depend on the vessel having such a certificate on board. Particular information is received from H.M. Customs, Pilots and Shipping agents. When stress of weather prevents a vessel from being boarded and given pratique at Sheerness she flies the flags - "Q" "QQ" or "L.I.M." as prescribed by the regulations according to her circumstances.

Notices are displayed at the principal landing stages pointing out the duty of Masters, Pilots, Stevedores and all others concerned with shipping in the Port of Rochester to inform the Port Health Authority of any case of infectious disease of which they may become aware during the course of their work.

4. Mooring stations under article 10.

(a) Within the Docks. There is one small commercial dock used by small coastwise and continental traders in which no special mooring is provided for the purpose of quarantine.

(b) Outside the docks. The primary quarantine ground is off Garrison Point at Sheerness. If, and when a vessel is allowed to proceed to Rochester with suspected cases on board which require her isolation, she is quarantined at a single ship mooring in the stream, of which there are several in the vicinity of Rochester.

It has not been necessary during the year to make use of any mooring as a quarantine measure.

5. Particulars of any Standing Exemptions from the Provisions of article 14.

There are no standing exemptions.

6. Experience of working article 16.

It has not been necessary to apply the provisions of this article. <sup>been</sup> Notifications of contacts sent from other Ports which have <sup>been</sup> given under direction of this article have been received from time to time and either dealt with in this



District or sent on to the appropriate authority.

7. (a) Premises and waiting Rooms for Medical Examination.  
When necessary, the Port Health Officer, Castle Hill, Rochester, are used for this purpose.
- (b) Cleansing and Disinfecting of Ship, Persons and Clothing  
The Port Health Staff attend to fumigation and disinfection of cabins, etc. on ships. Persons are dealt with at St. William's Hospital, Rochester, and clothing and other articles are dealt with by steam disinfection at the same Hospital.
- (c) Premises for the temporary accommodation of persons for whom each accommodation is required for the purposes of the Regulations.  
St. William's Hospital, Rochester is available for this purpose.
- (d) Hospital accommodation available for Plague, Cholera, Typhus, Yellow Fever, Smallpox and other infectious diseases  
By agreement with the Port of London Health Authority accommodation will be provided for the first five diseases at the Port of London Hospital at Denton. Other infectious diseases are dealt with at St. William's Hospital.
- (e) Ambulance Transport.  
For river transport a cabin launch is available, and for the shore an ambulance is available from St. William's Hospital.
- (f) Supervision of Contacts.  
This is carried out by the Medical Officer of Health.
8. Arrangements for Bacteriological or Pathological Examination of rats.  
Arrangements have been made with the County Laboratory, Maidstone.
9. Arrangements for other Bacteriological or Pathological Examination.  
This is done at the County Laboratory, Maidstone.
10. Arrangements for the diagnosis and treatment of venereal disease amongst sailors under international arrangements.  
A clinic for this purpose is situated in the District at No. 36 New Road, Rochester, through which all facilities for diagnosis and treatment are available.
11. Arrangements for the interment of the dead.  
A mortuary is available at St. Bartholomews Hospital, Rochester. The burial is carried out through the Ship-owners, the Local Authority, or, in the case of Foreign seamen through the respective Consuls.

TABLE C.  
Cases of Infectious Sickness landed from vessels.

<u>Disease.</u>	<u>No. of cases during 1938.</u>		<u>Average No.</u>	<u>No. of vessels concerned.</u>
	<u>Passengers.</u>	<u>Crew.</u>	<u>of cases for previous 5 yrs.</u>	
Scabies.	-	1	.63	2



TABLE D.

Cases of Infectious Sickness occurring on Vessels during the voyage,  
but disposed of prior to arrival.

<u>Disease.</u>	<u>No. of Cases during the year.</u>	<u>No. of vessels concerned.</u>	<u>Average No. of cases for previous 5 yrs.</u>
-	-	-	-

5. MEASURES AGAINST RODENTS.

1. STEPS TAKEN FOR THE DETECTION OF RODENT PLAGUE.

(a) Ships in the Port. The crew are questioned as to the presence of rats in or about their quarters. Rat traces are looked for in store rooms and other possible harbourages. Due regard is given to the trade in which the vessel is engaged and in special cases traps are set by the Corporation rat catcher in an effort to secure specimens for examination.

Foreman stevedores have been made aware of the possible significance of the finding of dead rats so that such cases may be reported without loss of time should they be discovered during the working of cargo. A handbill is in use in the Port setting out the responsibility of persons concerned in connection with keeping down rats and reporting deaths from unknown causes.

Attention is given to small river craft such as barges, etc. which are not in the habit of receiving deratization or exemption certificates under the Paris Convention. It is pointed out to the masters that their craft might possibly harbour infected rats which have entered the vessel while taking on board a cargo from a larger foreign going ship, and their responsibility of reporting the finding of dead rats is stressed. There are a number of these craft which trade fairly regularly to the Port and in these cases the masters are asked to keep any rat they catch where the circumstances of their passage render this course practicable so that it may be collected and sent away for examination.

In practice, however, it has been found that these craft do not harbour rats to any extent. The craft are small and the presence of rats is readily discovered by the crew and they are promptly dispatched. Extensive search by the rat catcher of selected vessels has failed to discover rat infestation.

(b) On Quays, Wharves, Warehouses, etc. These places are examined from time to time in order to discover serious infestation. Handbills are given to people concerned from time to time in order to keep the regulations concerning rats fresh in their memories, and warehousemen etc. are interviewed in order to ensure that preventive measures are not relaxed. The importance of at once reporting the finding of dead rats or mice is pointed out.

Up to the time covered by this report it has been the practice to send for bacteriological examination only those rats which actually gave cause for suspecting Plague. At the time of writing, however, arrangements are working whereby specimens are being sent for examination at regular intervals as a matter of routine.

2. MEASURES TAKEN TO PREVENT THE PASSAGE OF RATS FROM SHIP TO SHORE.

Except in special circumstances no measures are taken to prevent the passage of rats from ship to shore. Vessels discharge cargo while moored to buoys in midstream and usual precautions such as tarred beams, lighted and painted gangways etc. are impracticable.

Digitized by the Internet Archive  
in 2018 with funding from  
Wellcome Library

<https://archive.org/details/b30096789>

### 3. METHODS OF DERATIZATION.

(a) Rochester is not an authorised Port for the purposed of article 28 of the Paris Convention, 1926, but where deratization is necessary in ~~other~~ directions fumigation by Sulphur diozide, the use of varnish boards, traps and poisons are the methods in use.

In cases where deratization or deratization exemption certificates are required under the Paris Convention arrangements to supply these have been made with the London Port Health Authority under article 4 of the Port Sanitary Regulations 1933.

(b) Premises in the vicinity of Docks & Quays. Smoke machines, dogs, fumigation, traps, etc. are used. The principal ware-houses have cats on the premises and employ rat catching firms to give periodic attention to their premises. The Corporation rat catcher deals with patches of land adjoining the river and offering harbourage.

### 4. MEASURES TAKEN FOR THE DETECTION OF RAT PREVALENCE IN SHIPS AND SHORE.

**Ships.** Enquiry is made of Officers and crew. Rat traces are looked for particularly in store rooms. Cargo workers are questioned as to rat traces they may have noted or rats they may have seen while working cargo. When a vessel is under observation, holds, lifeboats, lazarettes, etc. are examined for rat traces.

**On Shore.** Buildings are examined for the usual rat traces such as droppings, runways, gnawed woodwork, sacks etc. The rat catcher makes a regular round of the riverside with his dogs.

### 5. RAT PROOFING.

With the exception of a few new buildings the local ware-houses are not built on rat proof lines. Efforts are made to render them as rat proof as practicable, by means of zinc and expanded metal. One warehouse firm has lined out their main store room with zinc up to a height of about 6 ft. and this in conjunction with the periodic action of rat catching firms gives them comparative security.

#### RATS DESTROYED DURING 1938..

TABLE E..

##### On vessels.

No. of Rats	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Brown .. ..	1	0	0	0	2	0	0	0	0	0	0	0
Black .. ..	1	1	0	0	0	1	0	0	0	0	0	0
Species not..												
recorded. ..	0	2	3	0	1	0	2	1	0	2	0	0

TABLE F.

##### In docks, quays, wharves and warehouses.

No. of Rats	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Brown .. ..	0	0	0	0	0	0	0	0	0	0	0	0
Black .. ..	1	0	0	0	0	0	0	0	0	0	0	0
Species not												
recorded ..	53	74	146	112	142	60	83	82	157	184	114	61

TABLE G.

MEASURES OF RAT DESTRUCTION ON PLAGUE "INFECTED" OR "SUSPECTED" VESSELS, OR VESSELS FROM PLAGUE INFECTED PORTS ARRIVING IN THE PORT DURING THE YEAR.  
No "infected" or "suspected" vessels arrived during the year.



TABLE H.

DERATIZATION CERTIFICATES AND DERATIZATION EXEMPTION CERTIFICATES ISSUED  
DURING THE YEAR.

Two vessels received Deratization Exemption Certificates from the Port of London Health Authority by arrangements made under article 4, Port Sanitary Regulations 1933.

6. HYGIENE OF CREW SPACES.

TABLE J.

Nationality of Vessel.	No. inspected during 1938.	Defects of original construction.	Structural defects through wear and tear.	Dirt, Vermin and other conditions prejudicial to health.
British	1062	28	80	210
Other nations	419	2	17	71

All notices were informal.

7. FOOD INSPECTION.

1. Action taken under the Public Health (Imported Food) Regulations 1937; The Public Health (Imported Milk) Regulations 1926; and The Public Health (Preservatives, etc. in Food) Regulations, 1925 - 1927.

Cargoes of flour, sugar, maize, potatoes, and barley were examined to the number of 108.

No food cargoes other than the above have arrived in the Port during the year.

All the commodities were in bulk and with the exception of 2 cargoes of barley and 13 cargoes of maize, they were from British Ports.

No alteration of arrangements has taken place since the Port was visited by Dr. Letham of the Ministry of Health and the existing arrangements reviewed in 1936.

2. SHELLFISH.

The River Medway contains several shellfish layings which are controlled by the River Medway Shellfish Regulations 1936. The Regulations require shellfish from the layings in the Medway to be relaid in approved waters or passed through a cleansing station before being placed on the market.

There is no cleansing plant on the Medway and the shellfish are sent to Whitstable for relaying.

Places to which shellfish taken from Layings in the district are sent to be marketed;-

No shellfish from the Medway may be sent directly to any market (see reference to River Medway Shellfish Regulations above).

THE LAYINGS FROM WHICH SHELLFISH (SPECIFYING THE KINDS OF SHELLFISH WHICH MAY BE MARKETING IN THE DISTRICT) ARE DERIVED.

Oysters and Mussels from any approved layings may be marketed in the district. Sources of local supply are Whitstable and Billingsgate market. No shellfish are imported into the Port either from Overseas or British Ports.

3. NUMBER OF SAMPLES OF FOOD EXAMINED BY (a) BACTERIOLOGIST (b) ANALYST.

It has not been necessary to submit any samples for either bacteriological examination or chemical analysis.



OTHER INFORMATION.Hospital Accommodation for Dangerous Infectious Disease.

Arrangements have been made with the Port of London Health Authority for the admission of cases of dangerous Infectious Diseases occurring in the Port of Rochester to Denton Hospital at a fee of four guineas per week, the transport to be provided by the Rochester Corporation.

1. CANAL BOATS.

As previously reported there are at present no canal boats operating on that part of the River Medway within the jurisdiction of the Port of Rochester Health Authority.

Owing to the design of the modern motor vessels registered under the Merchant Shipping Act, places once inaccessible to seagoing craft are at the present time easily approached and cargoes are now taken up river by the craft that brought them to the port. Where this is not possible in the case of the larger craft the cargoes are handled by motor barges, tugs and lighters.

2. GENERAL SANITARY WORK OF THE PORT.

(a) The Staff consists of the Port Medical Officer, the Assistant Port Medical Officer (appointed September, 1938), Port Health Inspector and a general assistant.

(b) A motor launch is provided.

(c) Provisions for cleansing and disinfecting verminous persons have been reported and have undergone no change.

(d) In addition to the cargo traffic of the port, several large day trip passenger vessels operate to seaside resorts from this port. The vessels are laid up during the winter and are inspected from time to time.

(e) It has not been necessary to take any special action during the year with respect to "infected" or "suspected" vessels. As previously reported the majority of vessels from Foreign ports discharge out in the stream and this fact facilitates possible quarantine measures.

(f) There are a few houseboats on the river which are used as dwellings. It has not been necessary to take any action during the year with regard to these boats.

3. CASES OF SICKNESS.

1 Case of Bronchitis and Erysipelas and 1 case of Scabies were removed to hospital.

1 Case of V.D. was sent to the V.D. Clinic.

Cases of sickness of a minor and non-infectious character were advised to obtain medical treatment wherever this appeared advisable.

One Smallpox contact and two Typhoid contacts were kept under observation for the necessary period. One typhoid contact was intending to join the crew of a ship in London and the circumstances were reported to the appropriate authority.

INTERNATIONAL SANITARY CONVENTION FOR AERIAL NAVIGATION.

Owing to bad weather conditions at her usual port of destination (Southampton), the Royal Mail Aircraft "Corinthian" landed on the Medway on November 23rd.



Her passengers and crew were examined by the Port Medical Officer and all were found to be well.

#### 4. GENERAL.

PSITTACOSIS REGULATIONS. Twenty eight Love Birds on board one of H.M. Vessels were detained under the above regulations. The birds were subsequently destroyed.

Two budgerigars were allowed to land from a coasting vessel after verification of the Master's statement that the birds had been purchased in Cowes from a local breeder and had not landed on foreign soil since the time of purchase.

One budgerigar on another vessel was not allowed to land.

The following are the figures for arrivals (other than estuarial craft), for the preceding five years and 1938.

1938	1937	1936	1935	1934	1933
1525	1500	1339	1278	1426	1260

#### MOSQUITOES.

The Annual Report for the year 1937 contained an account of a Mosquito Survey which was undertaken by the Port Health Department following complaints from the City. The chief trouble was found to be due to Aedes Detritus, a salt marsh breeding mosquito. Action was taken in certain areas with the means at the Department's disposal, and this action resulted in an abatement of the nuisance.

In addition to the breeding grounds within the Port Health District, however, there were riverside tracts of marshland within the boundaries of other Authorities as Chatham, Gillingham, Wouldham Cuxton, Snodland, Kingsnorth, etc., and it was necessary to approach the Authorities of these places before proceeding with general anti-mosquito measures beyond the Port Boundaries.

Accordingly, the report containing the result of the Port Health Inspector's survey was submitted to the above mentioned Authorities, with the result that it was decided that the conditions mentioned in the report should be confirmed by an expert from the Ministry of Health, and his advice obtained as to what measures were necessary under the circumstances.

Following this decision, Mr. P.G. Shute, F.R.E.S. of the Ministry of Health's Malaria Laboratory, visited the District and was taken over the ground by the Port Health Inspector. During Mr. Shute's survey, the following places were examined:- Gas Works Marsh, Rochester, Temple Marsh, Strood, Oakham and Holmes Marshes in the Strood Rural District, Nore Marsh below Gillingham and Admiralty property, and Burntwich Island near Queenborough, this Island also being Admiralty property. The marshlands opposite the town of Chatham were inspected and also some flooding in an adjacent chalk pit. Chalkpits in the Wouldham District were also examined.

The detailed report sent in by Mr. Shute confirmed the existence of a nuisance and Mr. Shute recommended a line of action to be carried out. The report was submitted to all the Riparian Authorities concerned who agreed to the measures outlined being carried out by the Port Health Authority.

Two high pressure sprays were obtained, each capable of delivery at a pressure of 120 lbs. per square inch, although the normal working pressure used was from 60 to 80 lbs. per square inch. This gave a satisfactory and economical distribution of the larvicide used and experiments showed that it was far more effective and economical to apply larvicide under pressure than to apply it naturally without pressure, since the effect of the



former was to produce a curtain under the surface before the larvicide returned in the form of a film to the top of the water. Larvae were therefore brought in contact with the material before coming to the surface to take in air and this effectually prevented survival by numbers of larvae collecting at an untreated spot of surface in order to breathe.

Infested pools were sprayed at intervals of from 10 to 14 days during the breeding season in order to kill off fresh hatchings of larvae, since larvicide has no action upon the eggs. Procedure was to concentrate on infested pools until tests showed no live larvae or pupae. The amount of larvicide was then cut down for subsequent sprayings because the new or 1st instar larvae which subsequently appeared were much easier to kill than the 4th instar larvae and pupae. All pools were examined by the Port Health Inspector before and after spraying in order to conserve supplies of larvicide by spraying only those pools, etc., infested with the larvae of the Aedes Detritus Mosquito, and to ensure that the spraying had been effective. Efforts to transport the spraying crew by launch proved almost useless as it was impossible to approach the marshes except at high water, and having landed a crew the falling tide prevented them being taken aboard again. It was therefore necessary to hire car transport in order to reach distant marshes. As larvae may be present from January until the end of September a good deal of land travel is entailed both in inspection and treatment of the various areas.

In addition to treating pools known to be infested, inspection was extended further afield and many new areas found to be infested with Aedes Detritus were dealt with.

An extensive area of drainage ditches on the border of Wouldham and Borstal was dealt with by systematic spraying. These ditches were cleared and in some cases deepened by the Catchment Board in order to decrease a tendency to stagnation caused by a prolonged spell of dry weather. Such ditches cannot be filled in because they are necessary for preventing the adjacent land becoming waterlogged and when normal and free flowing they do not present any great attraction as Mosquito breeding grounds, although they may be slightly infested at one or two favourable points. When rendered stagnant, however, mosquito larvae in enormous numbers appear. As the ditches referred to are brackish, either as a result of direct contact with river water, via the sluices, or by reason of residual salt in the ground (since the land has at some time been inundated) they afford ideal breeding places for the salt marsh mosquito that has been the principal cause of the nuisance.

Further infested areas were found and treated within the Wouldham boundary.

On the opposite side of the river the marshes were examined from Rochester to Snodland. Common Marsh Cuxton was, in places heavily infested and was dealt with by spraying during the season. Examination of the marshes in the vicinity of Snodland showed no Aedes Detritus but a few larvae of Anopheles Maculipennis were found. The property of the Sewage Works at Motley Hill was inspected and Aedes Detritus larvae were found at one or two points, the spraying being left in the hands of the Sewage Station Authorities.

Other places adjoining the river have already been mentioned in the reference to Mr. Shute's visit.

With the exception of one place, anti mosquito activities were confined to the riverside. The instance referred to was an abandoned chalk pit at Borstal. This pit had at one time been used for dumping rubbish and as it contained several stagnant pools it was thought probably that it might afford



breeding ground for Theobaldia Annulata, a mosquito whose bite is apt to cause trouble owing, no doubt, to the unsavoury environment in which it breeds. Examination of the pools showed that both Theobaldia Annulata and Aniphles Maculipennis were breeding there. The pools were accordingly sprayed throughout the season.

It is, of course, impossible to give even an approximate number of larvae killed, but as some samples of water showed about 300 larvae to the pint, the operations during the year must have resulted in the extermination of some millions of larvae. The approximate area of water surface sprayed was about 10,000 square yards.

The effect of the spraying was tested by enquiry in those areas which had been mostly affected, and the results were very satisfactory. The employees of a Works in an infested area who had previously complained of having been "eaten alive" did not quote one instance of mosquito bites.

It was also reported that persons having no knowledge of the anti-mosquito measures in hand had remarked on the curious absence of mosquitoes.

At the same time, however, the newspapers reported instances where in other parts of Kent, people were actually driven off tennis courts and similar places by swarms of mosquitoes. This would seem to show that the anti-mosquito measures in the Rochester Port Health District had been effective, and that the comparative absence of the salt marsh mosquito was directly due to these measures and not to natural phenomena.

How far effects are permanent, however, remains to be seen. The Aedes Detritus Mosquito is capable of flights of some miles and it may be that immigration will take place and the nuisance recur. It is also unduly optimistic to assume that no mosquito eggs of this type have been left in the District which of course would finally become adult mosquitoes and would multiply.

During the year 1939 it is proposed to re-examine all the areas treated during 1938 with the object of discovering, if possible, whether it will be necessary to include permanent Mosquito Control in the duties of the Port Health Department.

-----

